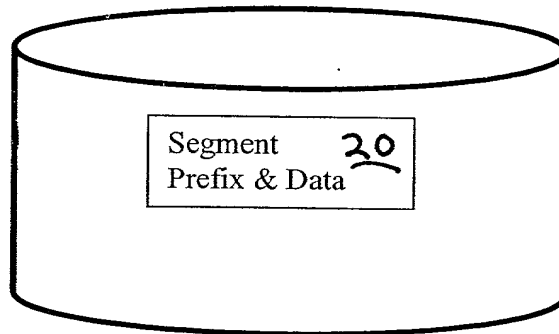


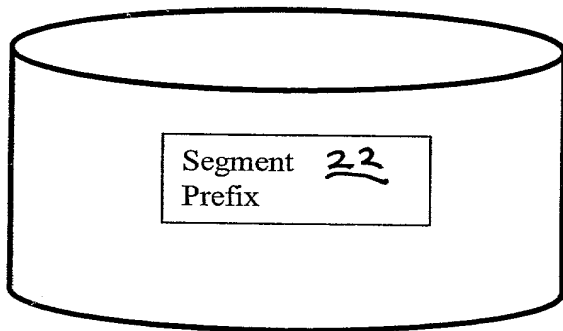
Current IMS Database



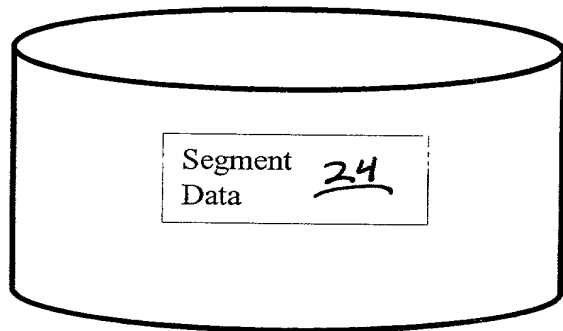
DS Group

Fig 1A  
(Prior Art)

Invention Database



Directory DS



Segdata DS

Fig 1B

[illegible]

**Figure 2A. Split Segment Composition – Prefix Portion with Metadata in segment data portion**

### Layout of Segment in Segdata Dataset

**Figure 2B. Split Segment Composition – Prefix Portion with Metadata in segment prefix portion**

**Figure 2B. Split Segment Composition – Prefix Portion with Metadata in segment prefix portion**

1003793-404904  
TOTOT EEE00T

Layout of Segment in Segdata Dataset

Segment Prefix <u>40</u>	Segment Data <u>42</u>	Trans- parent <u>44</u>
Seg code & delete byte <u>46</u>	User Data <u>48</u>	Born on Date <u>50</u>

Fig. 3

DBD NAME=IVPDB1,ACCESS=(HIDAM,OSAM)

DIR DD1=DFSIVD1,SIZE=2048,UOW=(500,50,10)

122

DATASET DD1=DFSIVD1A,DEVICE=3380,SIZE=2048

SEGM NAME=A1111111,PARENT=0,BYTES=40,RULES=(LLV, LAST),PTR=(TB,CTR)

FIELD NAME=(A1111111,SEQ,U),BYTES=010,START=00001,TYPE=C

FIELD NAME=A9999999,BYTES=010,START=00011,TYPE=C

LCHILD NAME=(A1,IVPDB1I),POINTER=INDX,RULES=LAST

LCHILD NAME=(A1X,IVPDB1X),POINTER=INDX

XDFLD NAME=AXXXXXXX,SEGMENT=A1111111,SRCH=(A9999999)

LCHILD NAME=(C1X,IVPDB1Z),POINTER=INDX

XDFLD NAME=CXXXXXXX,SEGMENT=C1111111,SRCH=(C9999999)

DATASET DD1=DFSIVD1B,DEVICE=3380,SIZE=4096

SEGM NAME=B1111111,PARENT=A1111111,BYTES=(1000,50),

X

RULES=(LLV, LAST),PTR=(TB)

FIELD NAME=(B1111111,SEQ,M),BYTES=010,START=00003,TYPE=C

FIELD NAME=/SXB1

LCHILD NAME=(B1X,IVPDB1Y),POINTER=INDX

XDFLD..NAME=BXXXXXXX,SEGMENT=B1111111,SRCH=(B1111111),SUBSEQ=(/SXB1)

DATASET DD1=DFSIVD1C,DEVICE=3380,SIZE=8192

SEGM NAME=C1111111,PARENT=B1111111,COMPRTN=(DFSKMPX0,DATA,INIT), X

RULES=(LLV, LAST),PTR=(TB),BYTES=(8000,50)

FIELD NAME=(C1111111,SEQ,U),BYTES=010,START=00003,TYPE=C

FIELD NAME=C9999999,BYTES=010,START=00011,TYPE=C

DIRGEN

DBDGEN

FINISH

END

Figure 4A Sample HIDAM DBD

DBD NAME=IVPDB2,ACCESS=HDAM,RMNAME=(DFSHDC40,4,1000)

124

DIR DD1=DFSIVD2,UOW=(100,10)

DATASET DD1=DFSIVD2A,DEVICE=3380,SIZE=2048

SEGM NAME=A1111111,PARENT=0,BYTES=40,RULES=(LLL,LAST), X  
COMPRTN=(DFSKMPX0,DATA,INIT)

FIELD NAME=(A1111111,SEQ,U),BYTES=010,START=00001,TYPE=C

DATASET DD1=DFSIVD2B,DEVICE=3380,SIZE=4096

SEGM NAME=B1111111,PARENT=A1111111,BYTES=(1000,50), X  
RULES=(LLV,LAST),PTR=(TB)

FIELD NAME=(B1111111,SEQ,U),BYTES=010,START=00003,TYPE=C

DATASET DD1=DFSIVD2C,DEVICE=3380,SIZE=8192

SEGM NAME=C1111111,PARENT=B1111111,COMPRTN=(DFSKMPX0,DATA,INIT),  
RULES=(LLV,LAST),PTR=TB,BYTES=8000

FIELD NAME=(C1111111,SEQ,U),BYTES=010,START=00001,TYPE=C

DIRGEN

DBDGEN

FINISH

END

Figure 48 Sample HDAM DBD

## Secondary Index

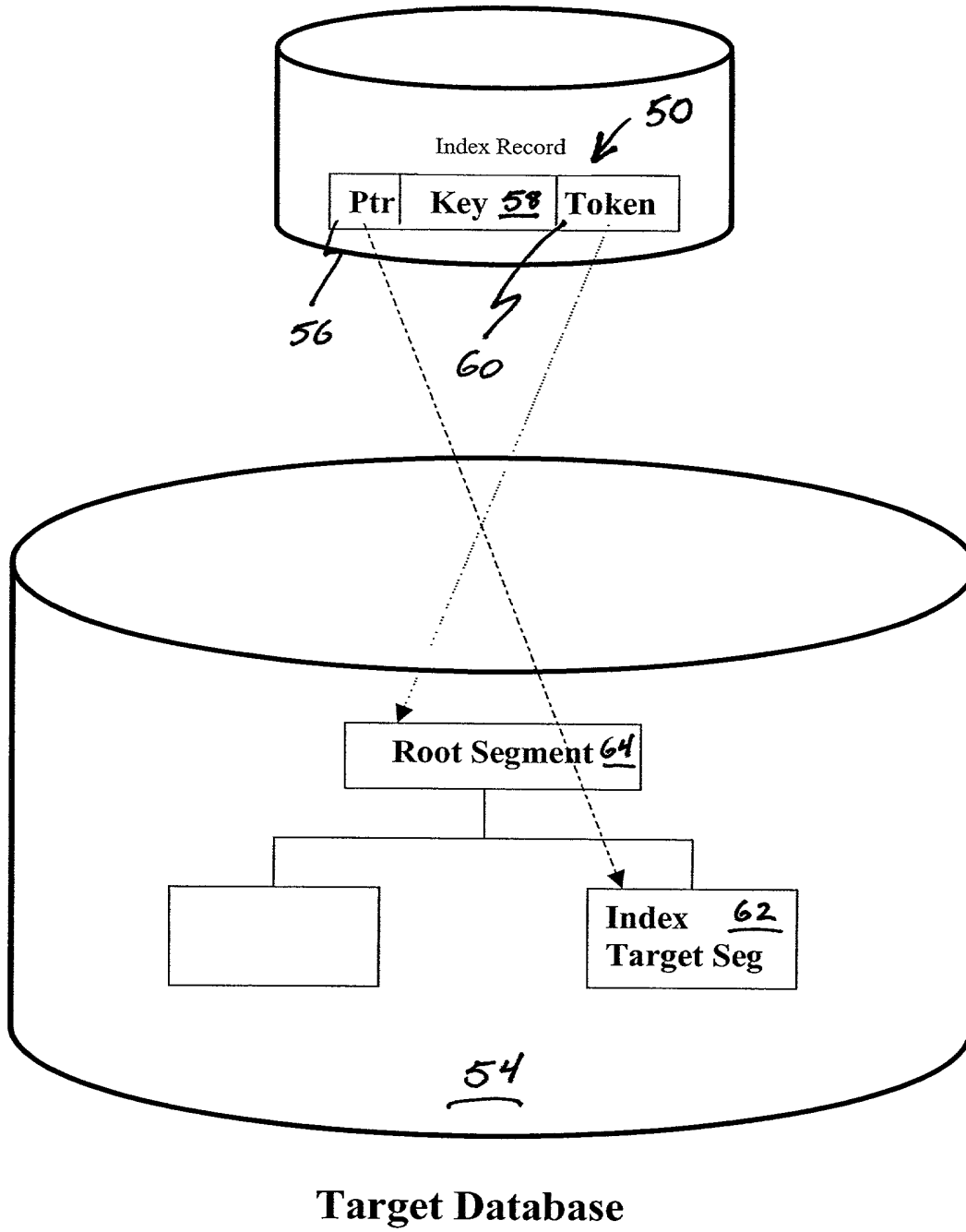
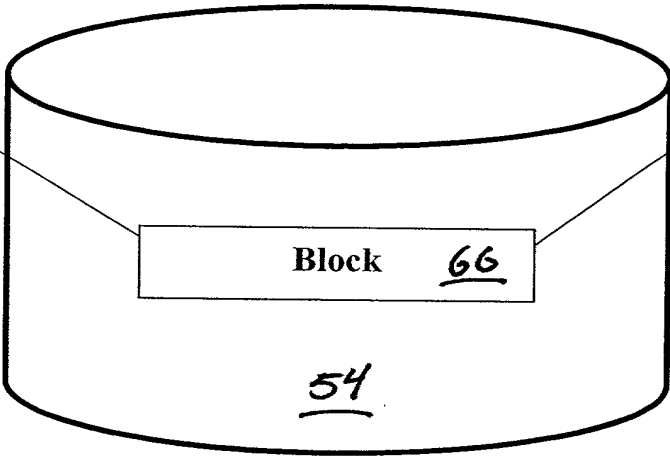
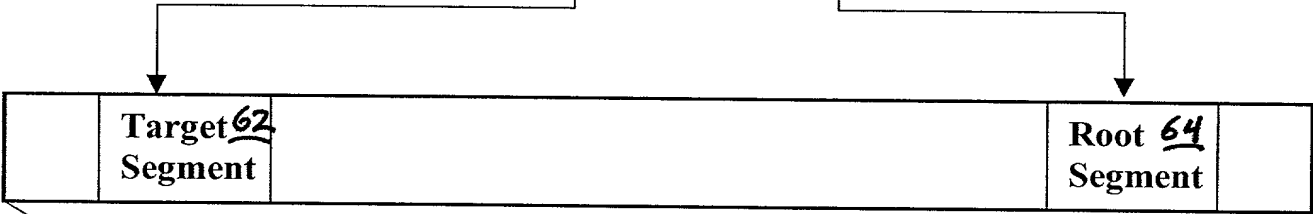
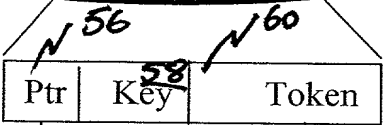
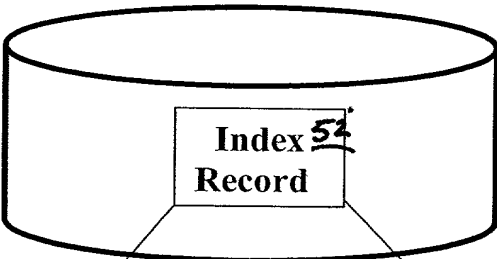


Figure 5 Secondary Index Architecture

Secondary Index



Target Database

Figure 6 Secondary Index Before Reorganizing

## Secondary Index

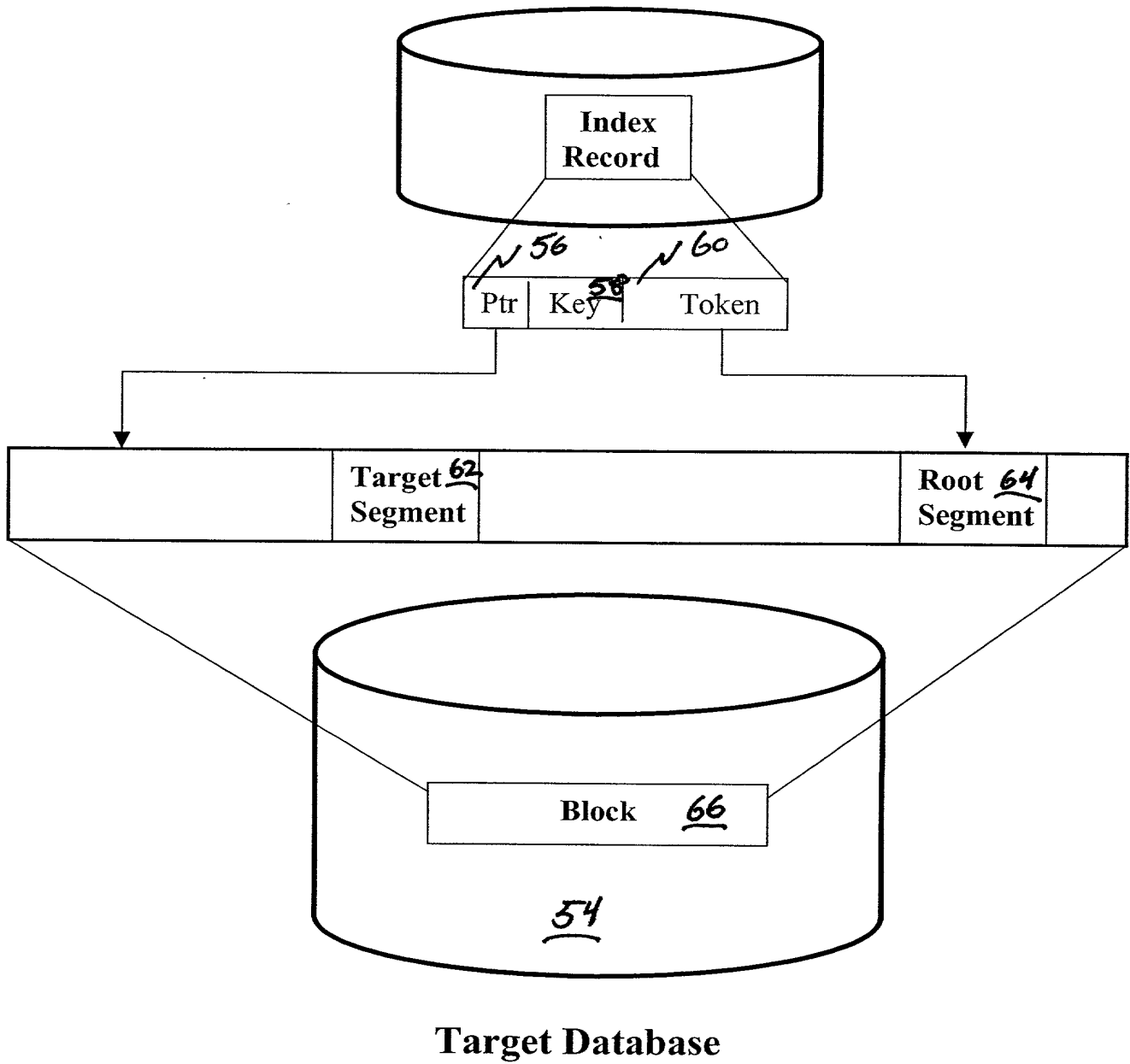
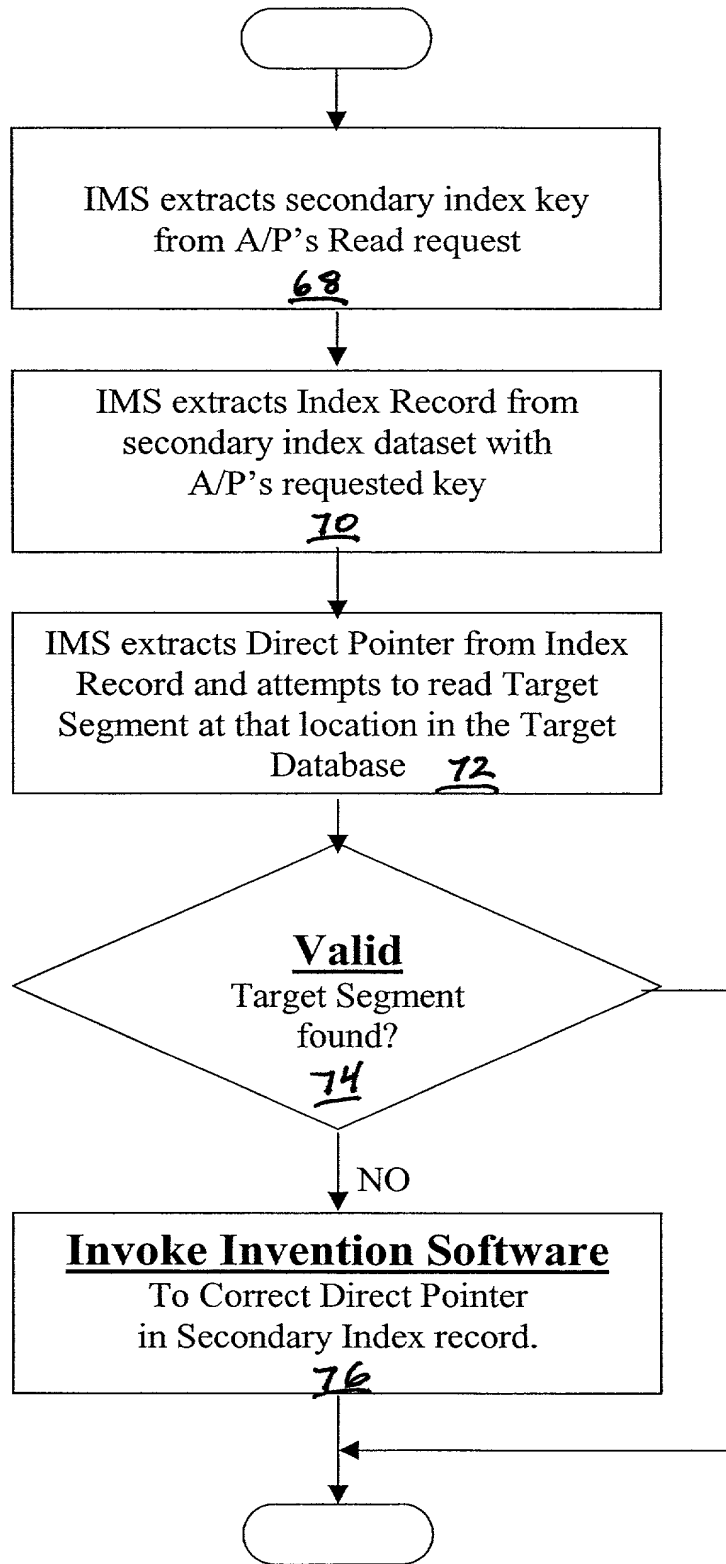
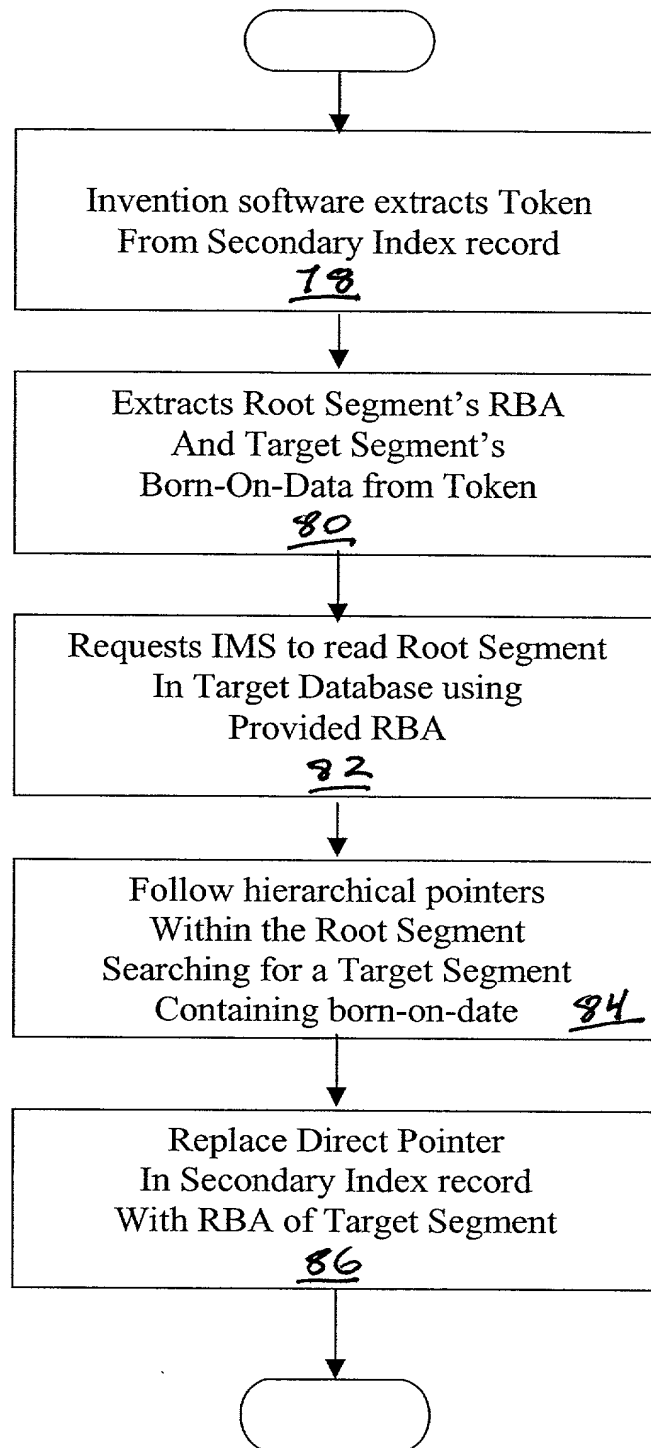


Figure 7 Secondary Index After Reorganizing





**Figure 8 Retrieving a Target Segment via a Secondary Index**



**Figure 9 Correcting Direct Pointer in a Secondary Index**

1003793-10001

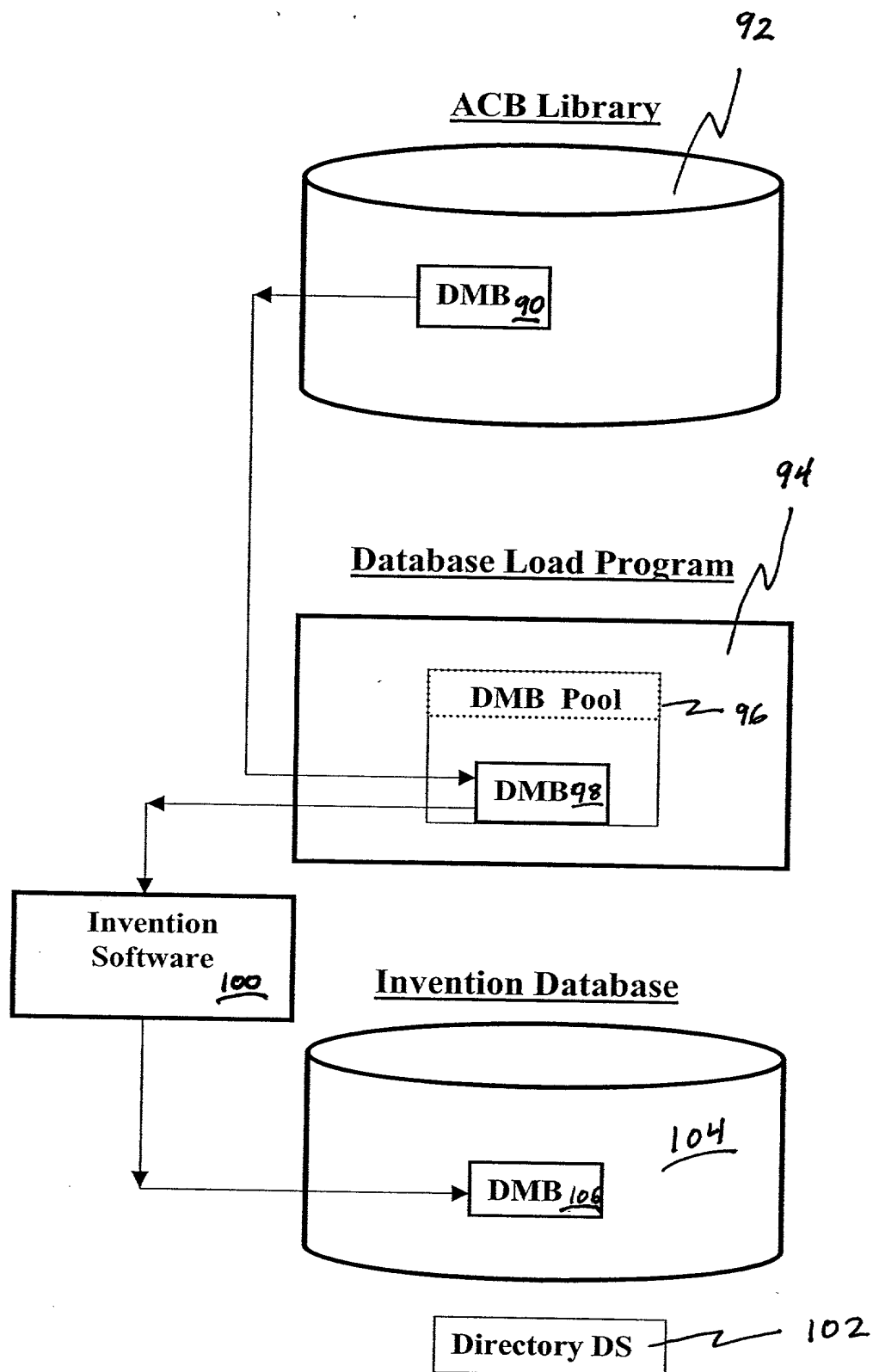
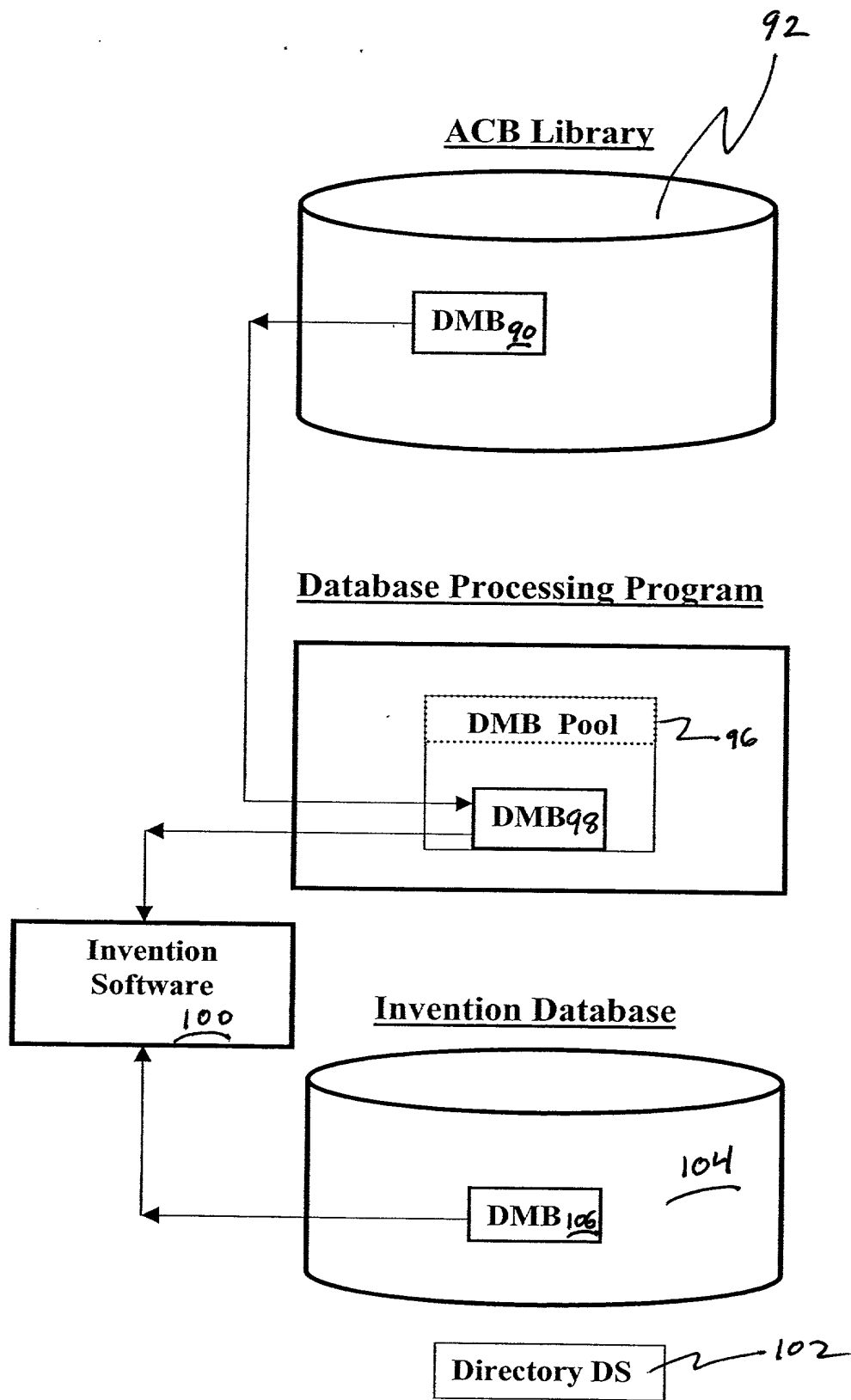
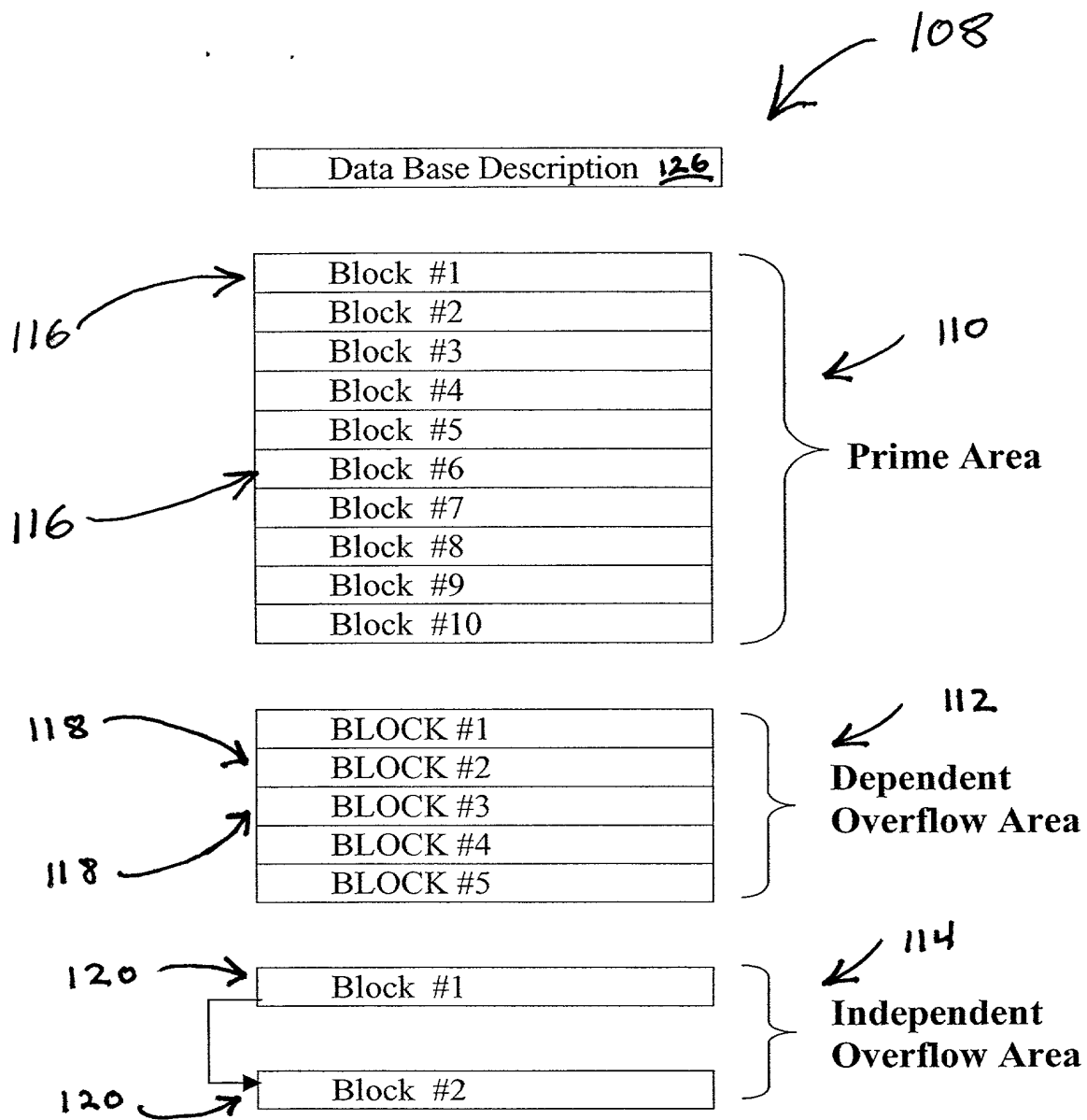


Figure 10 Saving the Database Definition at DB Load Time

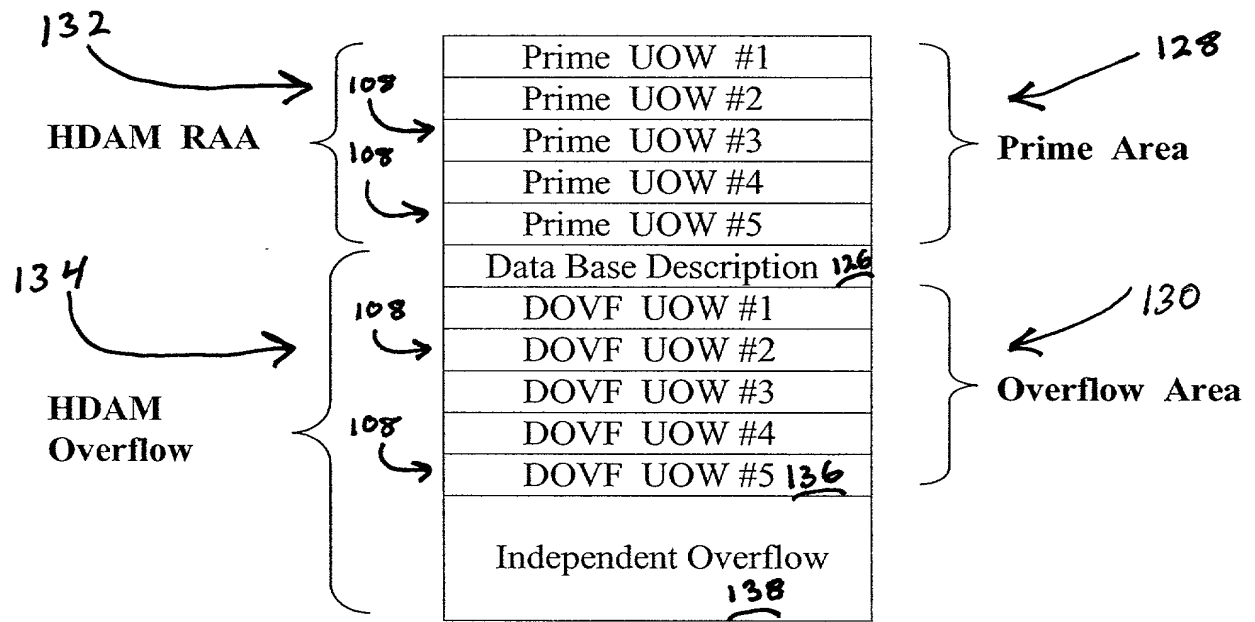
100793-104001



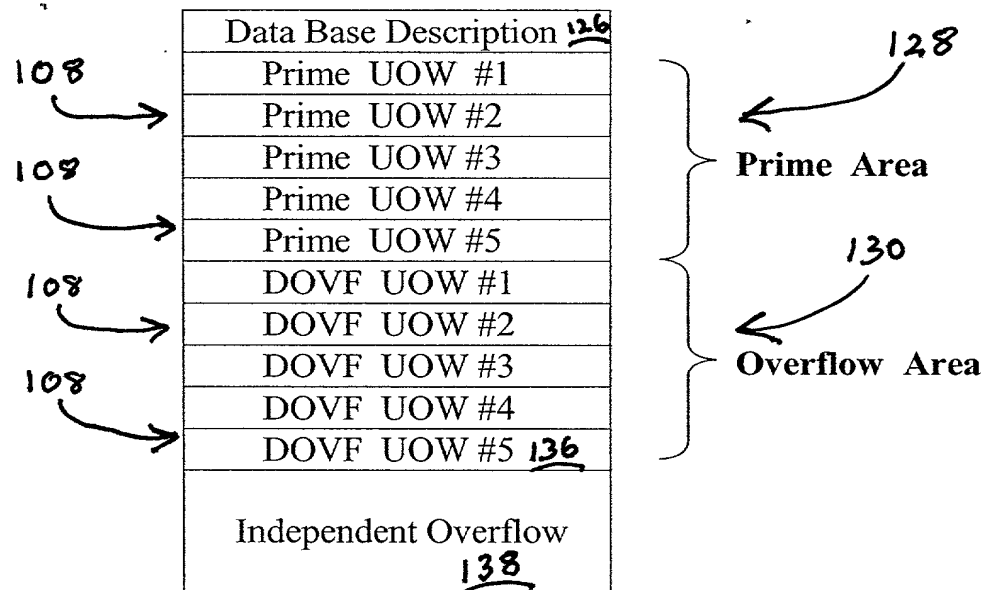
**Figure 11 Checking the Database Definition at DB Processing Time**



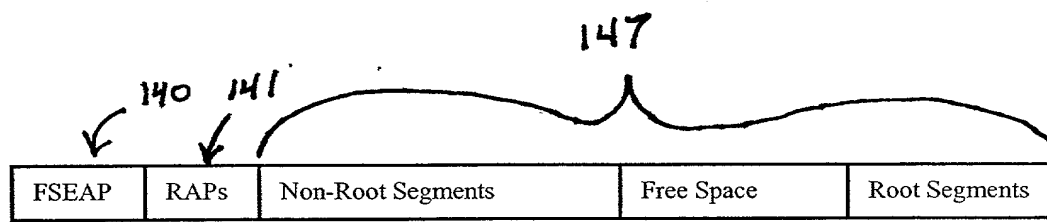
**Figure 12. Unit Of Work (UOW) Architecture**



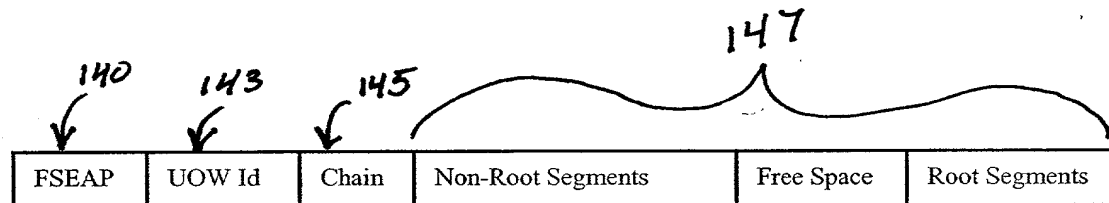
**Figure 13. HDAM UOW Architecture**



**Figure 14. HIDAM UOW Architecture**

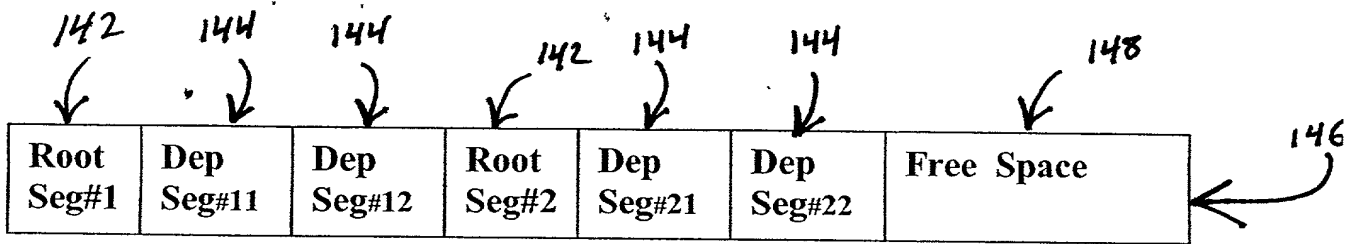


### Figure 15. Prime & DOVF Block Composition

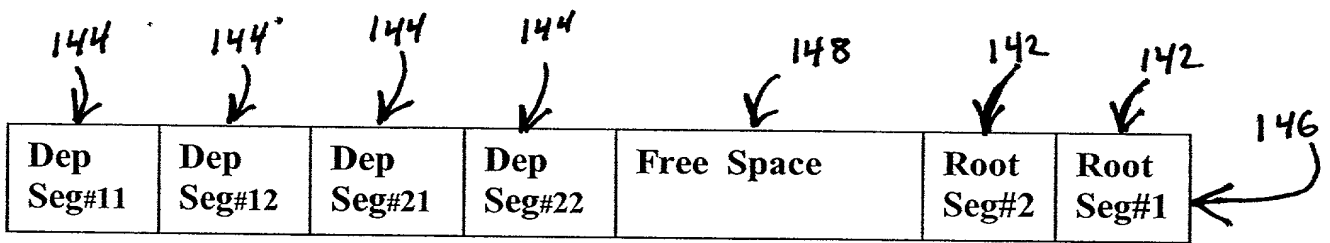


### Figure 16. IOVF Block Composition



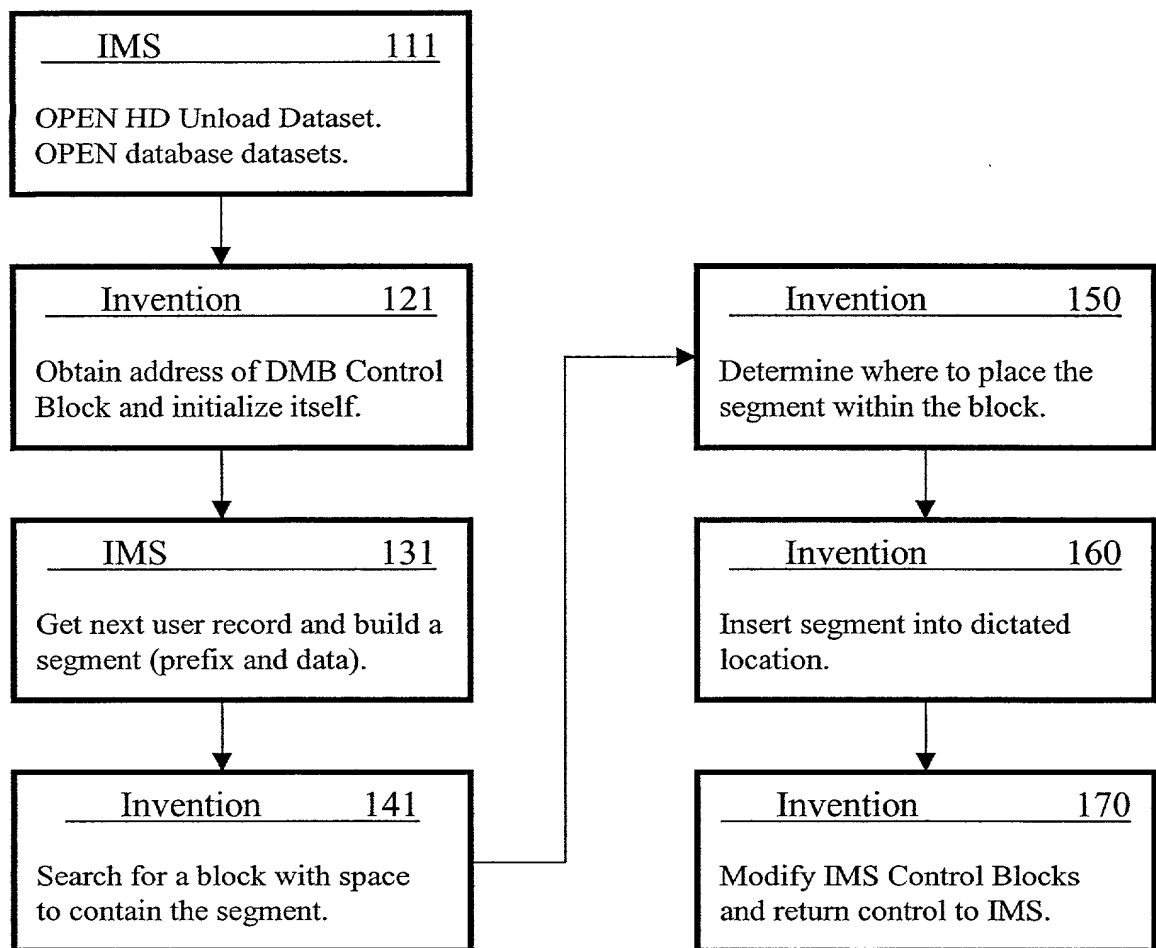


**Figure 17 Block Composition Using IMS' Space Management**

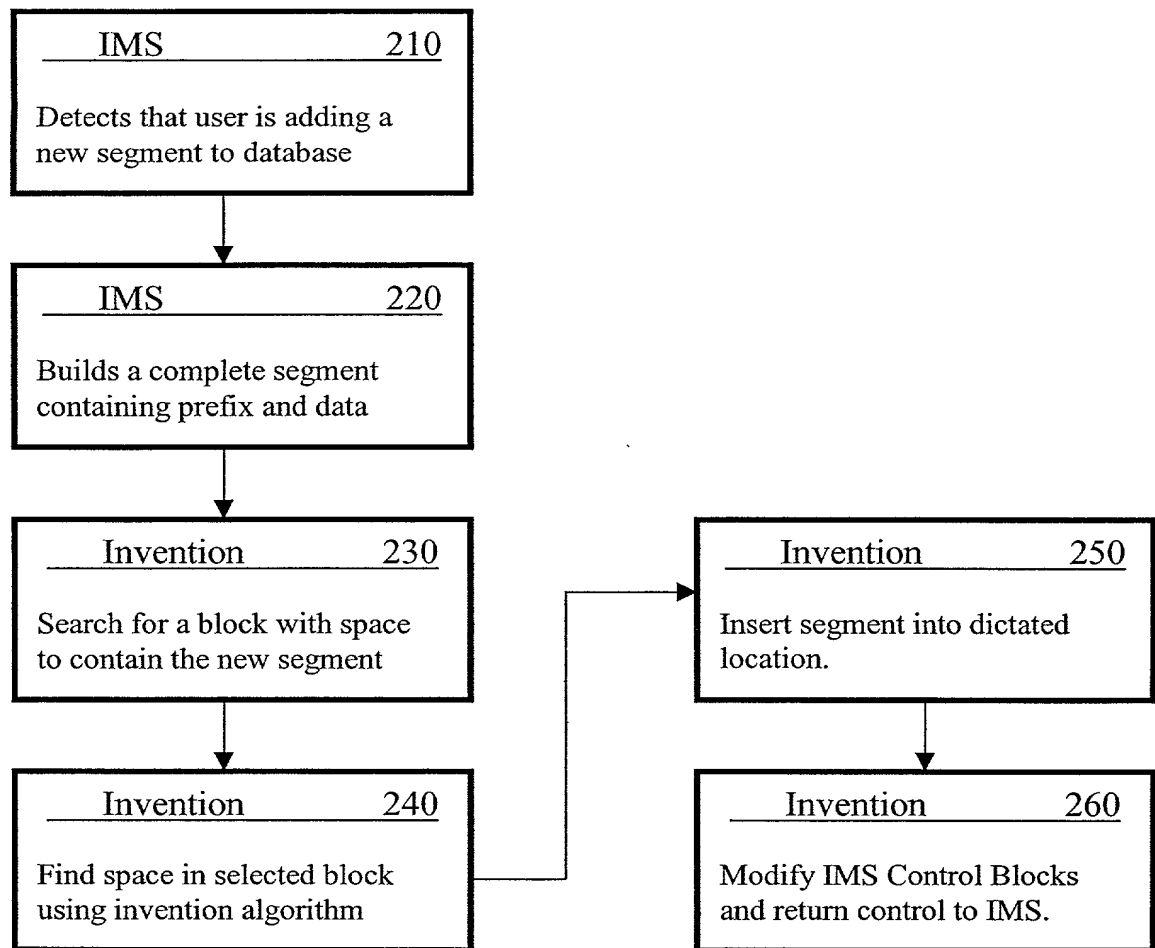


**Figure 18 Block Composition Using Invention's Space Management**

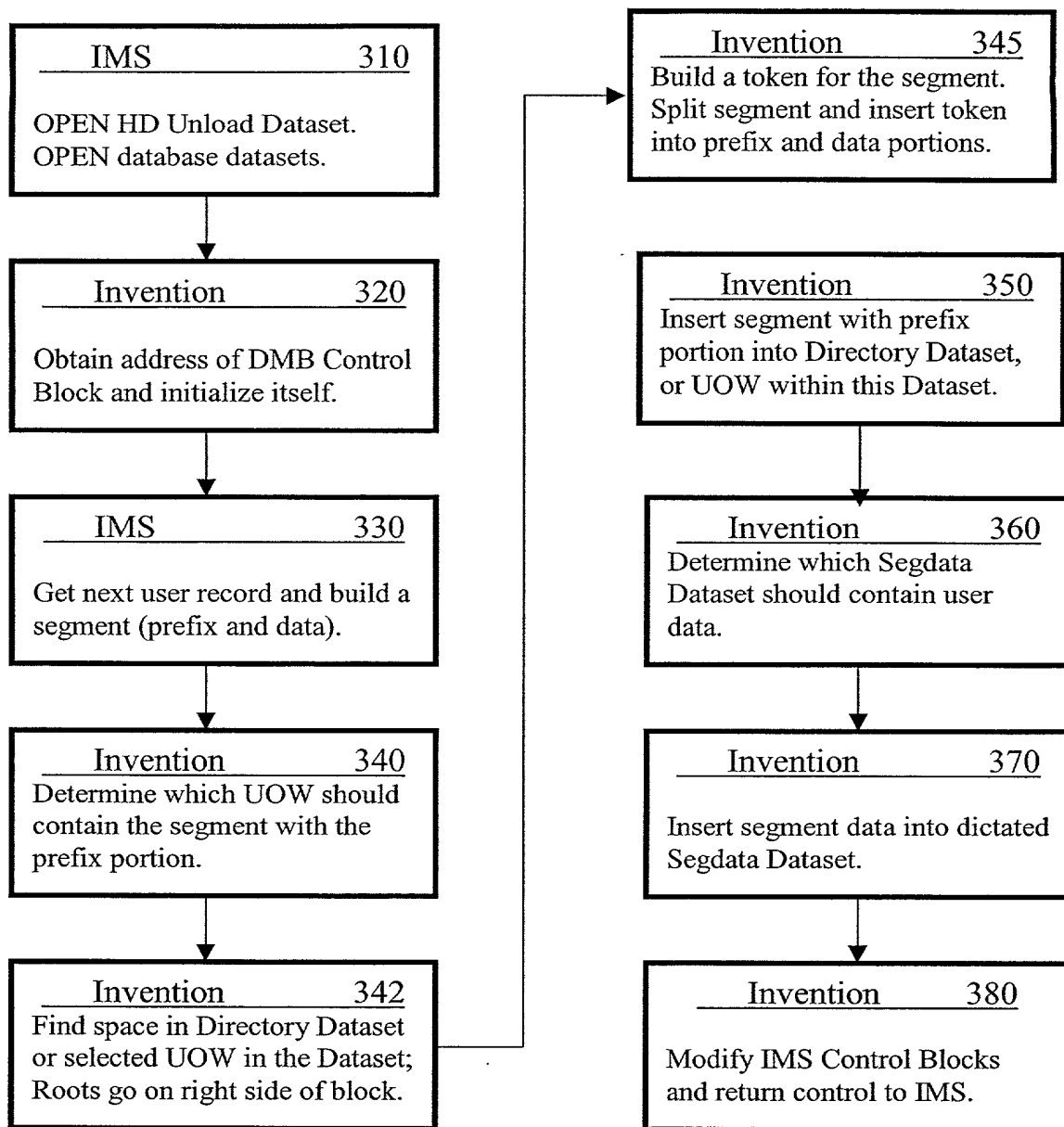
100793-101001



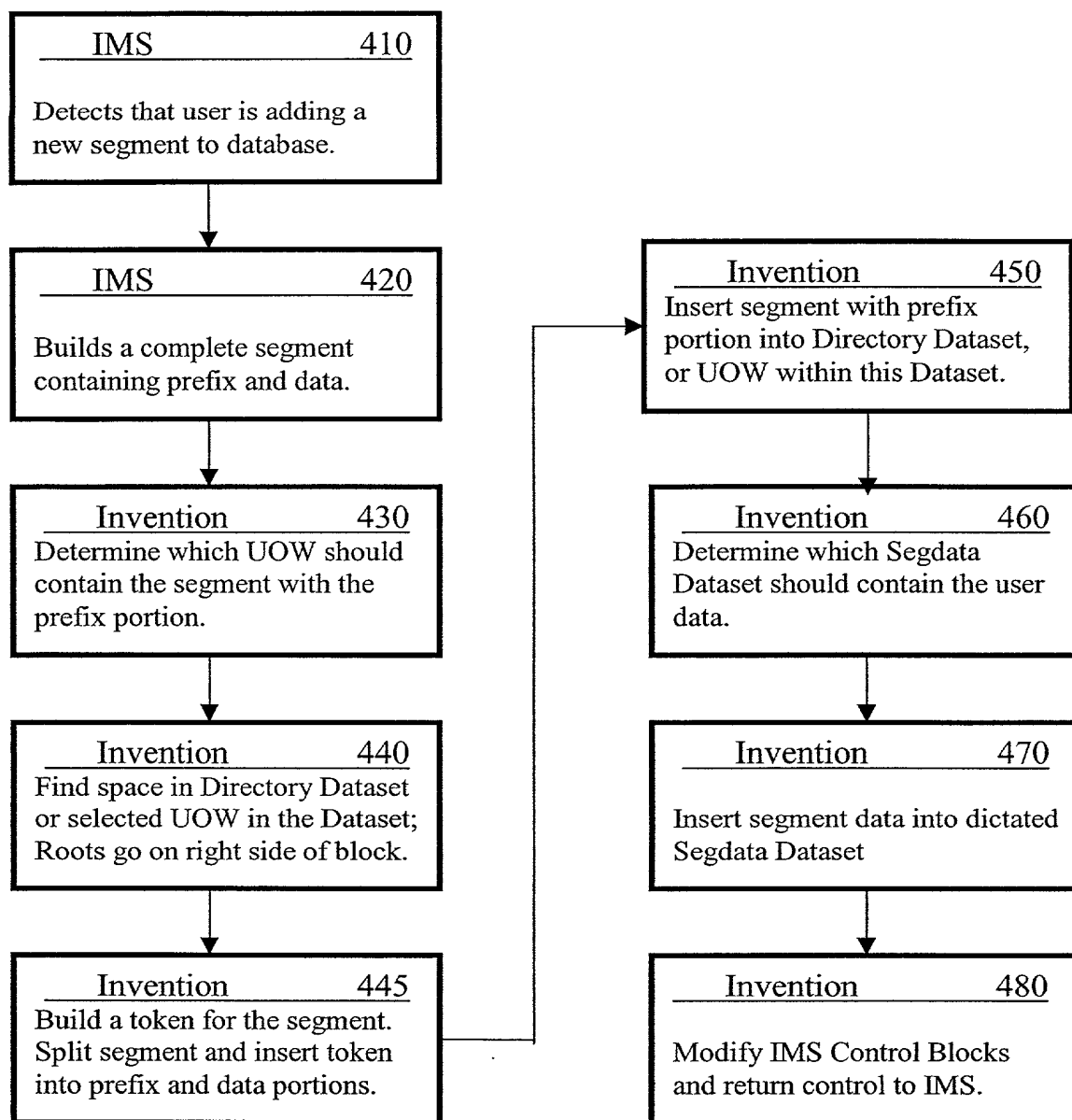
**Figure 19 Space Management at Database Load Time**



**Figure 20 Space Management at Database Update Time**



**Figure 21. Space Management at Database Load Time**



**Figure 22. Space Management at Database Update Time**